COVER SHEET

INTRAPRENEURSHIP IN AUSTRALIAN FIRMS

JASON FITZSIMMONS

Brisbane Graduate School of Business

Queensland University of Technology

2 George Street, Brisbane

Australia 4000

Phone: + 61 7 3864 2036

Fax: + 61 7 3864 1299

Email: j.fitzsimmons@qut.edu.au

EVAN J. DOUGLAS

Brisbane Graduate School of Business

Queensland University of Technology

2 George Street, Brisbane

Australia 4000

Phone: + 61 7 3864 2036

Fax: + 61 7 3864 1299

Email:

BOSTJAN ANTONCIC

Faculty of Economics

University of Ljubljana

Kardeljeva pl. 17

1000 Ljubljana

Slovenia

Phone: + 386 1 5892-576

Fax: + 386 1 5892-698

E-mail: bostjan.antoncic@uni-lj.si

ROBERT D. HISRICH

Weatherhead School of Management

Case Western Reserve University

237 Peter B. Lewis Building, Cleveland, OH

USA

Phone: + 216 368 5354

Fax: + 216 368 4785

E-mail: robert.hisrich@case.edu.au

ABSTRACT

This paper reports on the nature and extent of intrapreneurship (or corporate entrepreneurship) practiced by Australian businesses. We examined the relationship between measures of corporate entrepreneurship and firm growth and profitability, and utilized measures devised by earlier

researchers attempting to assess corporate entrepreneurship, viz: new business venturing, innovativeness, self-renewal, and proactiveness. Control variables included industry, firm age, and firm size. Interestingly, we found that the items measuring corporate entrepreneurship loaded onto not four but five factors, effectively splitting the self-renewal measure into two distinct elements. Profitability was significantly correlated with self-renewal (negative) and organisational support (positive) while growth was found to be significantly and positively related to both new business venturing and environmental munificence.

INTRODUCTION

Intrapreneurship, or entrepreneurship within existing organisations, has generated considerable research over the past few decades. Much of this research has focussed on investigating how entrepreneurial firms differ from other types of firms (Kreiser, Marino, Weaver, 2002). The essence of intrapreneurship is innovation, with early work by Miller and Friesen (1982) arguing that entrepreneurial firms were characterised by their strong willingness to innovate while taking risks in the process. Entrepreneurial firms innovate not only in their markets but also by introducing new production, marketing and management processes that are intended to give them a competitive advantage. Underlying corporate entrepreneurship is entrepreneurial leadership and intrapreneurial managerial behaviour within the firm. At the firm level, intrapreneurship is synonymous with corporate entrepreneurship (Antoncic and Hisrich, 2003).

Corporate entrepreneurship is concerned with various forms of newness which can include organisational renewal, innovation and establishing new ventures (Dess, Ireland, Zahra, Floyd, Janney, Lane, 2003). Corporate entrepreneurship has long been recognised as beneficial for the organisation, with the main theoretical argument being the positive influence related to first-mover advantages and the tendency of entrepreneurial firms to take advantage of emerging opportunities as they become available (Wiklund, 1999). There is mounting empirical evidence that there is a positive relationship between corporate entrepreneurship and firm performance (Zahra, 1991; Zahra and

Covin, 1995; Wiklund, 1999). Although researchers agree that corporate entrepreneurship is beneficial for the organisation there is still disagreement on the actual dimensions of the corporate entrepreneurship construct (Covin and Miles, 1999).

More recently, following Miller (1983), Miller and Friesen (1983), Lumpkin and Dess (1996) and Covin and Miles (1999), Antoncic and Hisrich (2001) considered previous views of intrapreneurship and developed a more parsimonious multi-dimensional intrapreneurship construct. They argued that the construct could be classified into four dimensions, namely: (1) new business venturing, (2) innovativeness, (3) self-renewal, and (4) proactiveness. They found that their redefined measures of intrapreneurship integrated well with previous measures of corporate entrepreneurship and were valid in a cross-cultural setting.

Given the importance of corporate entrepreneurship in maintaining organisational competitiveness, this study aimed to investigate the relationship between corporate entrepreneurship and firm performance in Australian firms. We first review the recent literature on the corporate entrepreneurship construct and the link between corporate entrepreneurship and firm performance. We then outline our method of operationalising the corporate entrepreneurship construct using the method described by Antoncic and Hisrich (2001) and investigate the relationship between intrapreneurial behaviour and firm performance while controlling for firm age, size and broad industry classification. The study also included external environmental factors that may impact on the performance of the firm. The results of the investigation are then presented and finally we discuss these results and their implications for firms in the Australian context.

RECENT LITERATURE

Much of the previous work has focussed on the work of Miller (1983) and Miller and Friesen (1983), who suggested that firm level entrepreneurship can be considered in terms of the firm's ability to innovate, take risks and compete proactively. Lumpkin and Dess (1996) considered corporate

entrepreneurship as being multi-dimensional in nature and suggested two additional dimensions, these being related to autonomous behaviour within the firm and competitive aggressiveness in dealing with industry rivals. Covin and Miles (1999) following Zahra (1993), argued that corporate entrepreneurship also involves the rejuvenation and redefinition of the organisation in order to sustain corporate competitiveness and suggested that the firm's ability to rejuvenate the organisation was important and that 'strategic renewal' should form part of the corporate entrepreneurship construct.

Antoncic and Hisrich (2001) considered previous measures of corporate entrepreneurship and suggested that previous dimensions could be classified into four dimensions, namely: new business venturing, innovativeness, self-renewal and proactiveness. New business venturing refers to the creation of new businesses within the existing organisation regardless of the level of autonomy. These new business entities can reside either within the firm or outside the existing organisational domain (Sharma and Chrisman, 1999). Antoncic and Hisrich (2003) considered this dimension an integral component of intrapreneurship given the importance of entrepreneurial firms pursuing new business venturing by redefining the company's products or markets. They also considered the new business venturing dimension to include the Lumpkin and Dess (1996) dimension of autonomy, which referred to the independent action by an individual or team aimed at bringing forth a business concept or vision and carrying it though to completion.

Innovation is arguably the most important component of intrapreneurship or corporate entrepreneurship. As such, the innovativeness dimension was included in the intrapreneurship construct and refers to product and service innovation with the emphasis on development and innovation in technology. Antoncic and Hisrich (2001) felt that their innovativeness dimension integrated well with previous views on innovation in corporate entrepreneurship.

The proactiveness dimension "refers to the extent to which organizations attempt to lead rather than follow competitors in such key business areas as the introduction of new products or services, operating technologies, and administrative techniques" (Covin and Slevin, 1986, p. 631). Covin and

Slevin (1991) felt that this was reflected in the firm's propensity to aggressively and proactively compete with industry rivals and as suggested by Knight (1997) is related to aggressive posturing relative to competitors. Antoncic and Hisrich (2001) follow Knight (1997), who suggested that risk-taking and competitive aggressiveness should be included in the same dimension with proactiveness.

Finally, the self-renewal dimension is aligned with previous views on organisational renewal or strategic renewal. Self-renewal refers to the process in which organisations seek to renew or redefine the way in which their business units compete and can be seen as the transformation of organisations through the renewal of key ideas on which they are built (Guth and Ginsberg, 1990; Zahra, 1991). Zahra (1993) considered the self-renewal construct to comprise strategic and organisational change and to include the redefinition of the business concept, reorganisation, and the introduction of system-wide changes for innovation. Covin and Miles (1999) consider the strategic renewal concept to be related to the phenomena whereby the organisation seeks to redefine its relationship with its markets or competitors by fundamentally altering how it competes.

Regarding the effect of corporate entrepreneurship on firm performance, there is a lack of consensus on suitable measures of firm performance (Wiklund, 1999). Most researchers agree however, that firm performance is generally multi-dimensional in nature (Lumpkin and Dess, 1996; Wiklund, 1999) and that suitable indicators should include both growth and financial performance measures. Wiklund (1999) considered various growth measures and suggested sales growth as having high generality and a suitable measure of growth performance given that sales growth also reflects increased demand for a firm's products or services. But as Zahra (1991) notes, growth itself is not sufficient to measure firm performance as in some instances a firm might choose to trade-off long-term growth for short-term profitability. Accordingly, Wiklund (1999) suggests that measures of both growth and profitability provide a better indication of overall firm performance. This suggests the following hypotheses:

Hypothesis 1a: Intrapreneurship dimensions of new business venturing, innovativeness, proactiveness and self-renewal are positively related to firm growth.

Hypothesis 1b: Intrapreneurship dimensions of new business venturing, innovativeness, proactiveness and self-renewal are positively related to firm profitability.

In addition, several researchers have suggested that the firm's external environment needs to be taken into account when considering the relationship between corporate entrepreneurship and firm performance (Covin and Slevin, 1991; Zahra, 1993). The external environment has been suggested as influencing entrepreneurial activity with certain environmental characteristics such as dynamism, technological opportunities, industry growth and demand for new products being favourable for intrapreneurship (Antoncic and Hisrich, 2001). Zahra (1993) considered the impact of external business conditions, which may be more or less conducive to corporate entrepreneurship and firm performance. He defined 'environmental munificence' as a multi-dimensional concept that includes 'dynamism', technological opportunities, industry growth and demand for new products. Dynamism refers to perceived instabilities and continuing changes in the firm's environment and is considered favourable to intrapreneurship given increased opportunities in the firms markets (Zahra, 1991). Technological opportunities, industry growth and demand for new products can also create opportunities for firms and hence should be favourable to intrapreneurship. Lumpkin and Dess (1996) argued that environmental factors could influence performance directly and suggested that environmental munificence and corporate entrepreneurship to have independent effects on firm performance. Hence, previous research on environmental factors suggests the following hypothesis:

Hypothesis 2a: Environmental munificence is positively related to firm growth.

Hypothesis 2b: Environmental munificence is positively related to firm profitability.

Lumpkin and Dess (1996) also suggested that organisational factors such as firm size, culture and management team characteristics to influence the relationship between corporate entrepreneurship and firm performance. Antoncic and Hisrich (2001) outlined several organisational factors which

included organisational support activities such as top management support, commitment and style, as well as the staffing and rewarding of venture activities. Organisational support also included the training and trusting of individuals to detect opportunities (Stevenson and Jarillo, 1990).

RESEARCH DESIGN AND SAMPLE

Our study examined the self-reported corporate entrepreneurship activity of managers in Australian businesses and related this to measures of growth and profitability of those firms. The research design was cross-sectional with a questionnaire mailed to the chief executive officer of the sample companies, with anonymity being assured.

A random sample of 350 firms with 100 or more employees was selected from a commercially-available database. The variety of industries included consumer goods, industrial goods, manufacturing, construction, retail and wholesale trade, engineering, research and development, consumer and business services, transportation and public utilities. Some industries, such as health care organizations, financial institutions, and educational institutions, were specifically excluded for a variety of reasons relating to measurement problems. There were 70 usable responses for a response rate of 20%, and although the response rate suffered due to the length of the questionnaire, no evidence of response bias was found.

Intrapreneurship and its correlates were measured by items or scales previously used by other researchers. Intrapreneurship was measured across four dimensions (new business venturing, innovativeness, self-renewal and proactiveness) by using the cross-culturally comparable intrapreneurship scale developed by Antoncic and Hisrich (2001) based on the corporate entrepreneurship scale (Zahra, 1993) and the ENTRESCALE (Khandwalla, 1977; Miller and Friesen, 1978; Covin and Slevin, 1989; Knight, 1997). Intrapreneurship dimensions were measured by 22 items, viz: new business venturing (4 items), innovativeness (4 items), self-renewal (11 items) and proactiveness (3 items).

The dependent variables of performance were measured in terms of growth and profitability. Zahra and Covin (1995) noted that there may be a lagged effect between antecedent variables and entrepreneurial outcomes such as firm performance. In order to account for any lagged effect, measurement items for these variables were reported measures for the previous three years. Growth was measured by three items. The first asked the average annual growth in number of employees in the last three years, the second asked the average annual growth in sales in the last three years, the third assessed relative growth in market share (Chandler and Hanks, 1993) in the last three years.

Profitability was assessed by five items: average annual return on sales (ROS), average return on assets (ROA), average annual return on equity (ROE) in the last three years, and two subjective measures of firm performance relative to competitors, viz.: the company's profitability in comparison to all competitors and to competitors that are about the same age and stage of development (Chandler and Hanks, 1993; Antoncic and Hisrich, 2001).

We also included environmental munificence in the model as an independent variable (Lumpkin and Dess, 1996). Environmental munificence was measured by using six items measuring 'dynamism' and nine items measuring technological opportunities, perceived industry growth, and demand for new products (Zahra, 1993). Following Wang and Ang (2004), the respondents' ratings on these four dimensions were averaged to derive a single measure of environmental munificence for each firm, with a higher value corresponding to a more munificent environment. Control variables of organisational size, age, and industry were also included with respondents checking appropriate boxes for size, age and industry of their organisation. Given the relatively small sample size it was not possible to include industry classification (11 classifications) into the regression analysis as dummy variables. Instead, firms were classified as either service or manufacturing firms for inclusion into the regression models.

Prior to investigating the effects of intrapreneurial behaviour on firm performance we employed factor analysis (principal components analysis using varimax rotation) to investigate the underlying structure

of the items measuring each of the intrapreneurship dimensions. To increase the estimation model parsimony and to enable analysis of the relatively small sample, several dimensions were then represented in the model with a variable that was calculated as the average of dimension items (for example, for the new business venturing dimension of the intrapreneurship construct our measure was calculated as the average of all four items related to this dimension). Measures for each variable were tested for reliability using Cronbach's alpha. We then assessed relationships between intrapreneurship and firm performance using regression analysis.

RESULTS

The results from the factor analysis on the individual items comprising each of the four intrapreneurship dimensions are given in Table 1. Items related to the dimensions of new business venturing and innovativeness were found to load on separate factors, while one of the items measuring proactiveness loaded on the new business venturing dimension (this item was subsequently removed for the remainder of the analysis).

Insert Table 1 about here

In contrast to Antoncic and Hisrich (2001), we found that the items expected to be related to the self-renewal dimension tended to load onto two separate factors. To investigate this further we performed factor analysis of the 11 items comprising the self-renewal dimension which again resulted in two factors being obtained. On closer analysis of the items comprising this dimension we found that the first of these factors related to organisational restructuring and clearly related to the self-renewal construct, while the second factor related to seemed to relate to organisational changes designed to increase innovation within the organisation (Table 2). Rather than force the items on to a single factor, we decided to separate these items into two factors for the remainder of the analysis. For the

purposes of the study the first five items (factor 1) were taken to represent the self-renewal dimension, while the five items related to the second factor were associated with 'organisational support' and treated as a separate variable.

Insert Table 2 about here

Reliability analysis for the resulting intrapreneurship dimensions varied from moderately good to very good internal consistencies. The Cronbach's alpha result for each of these dimensions was found to be 0.62 for new business venturing, 0.84 for innovation, 0.72 for self-renewal and 0.76 for proactiveness.

We then performed regression analysis to investigate the relationships between the intrapreneurship dimensions and firm performance. The results of the regression analyses are given in Tables 3 to 6. Two models were tested: Model 1 (see Tables 3 and 5) included performance (separately growth and profitability) as a dependent variable with control variables excluded, and Model 2 (see Tables 4 and 6) included the control variables.

Insert Table 3 about here

The results from the regression analysis using growth as the dependent variable found a positive and significant relationship between new business venturing and growth and between proactiveness and growth (Table 3). No significant relationships were found between the entrepreneurial dimensions of innovation and self-renewal and firm growth. In the second model with control variables included (Table 4), a significant positive relationship was again found between new business venturing and firm growth. The results offered some support for Hypothesis 1a. A significant positive relationship

was also found between the control variable of environmental munificence and firm growth providing support for Hypothesis 2a. No significant relationships were found between firm growth and variables representing firm age, firm size or organisational support.

Insert Table 4 about here

In considering the relationships between the intrapreneurship dimensions and firm profitability (Table 5), a moderate negative relationship was found between self-renewal and profitability ($p = 0.07$) while a moderate positive relationship was found between proactiveness and profitability ($p = 0.07$). No significant relationships were found between profitability and the entrepreneurial dimensions of innovativeness and new business venturing. Overall, the results offer some support for Hypothesis 1b.

Insert Table 5 about here

With the control variables included (Table 6), a significant negative relationship was found between self-renewal and profitability ($p = 0.004$), while a significant positive relationship was found between the organisational support variable and firm profitability ($p = 0.01$). Consequently, Hypothesis 2b was not supported. Other control variables were found to be insignificant in explaining firm profitability.

Insert Table 6 about here

No significant relationships were found between industry and growth or profitability measures. It was observed however, that significant differences did exist between industry classification and the performance variables of growth and profitability. For example, in comparing the relationships between industry and growth, firms in engineering, research & development as well as firms providing management consulting & business services reported higher growth than firms involved in say, manufacturing consumer goods or those involved in manufacturing industrial goods. Likewise, in the comparisons between profitability and industry, firms involved in mining, extraction & oil as well as firms in management consulting & business services reported higher profitability than firms in say, construction or transportation or public utilities.

DISCUSSION AND IMPLICATIONS

In this study we found a significant difference relating to the self-renewal construct. The items relating to this construct were taken from Antoncic and Hisrich (2001), and were based on a 13 item scale from the corporate entrepreneurship scale originally developed by Zahra (1993). Antoncic and Hisrich (2001) performed factor analysis on these 13 items and found that 11 of these items factored on the self-renewal dimension (the remaining 2 items were excluded from the analysis as they loaded onto different factors). In contrast, in our factor analysis of these items, the Australian data loaded on two distinct factors, these being self-renewal and a second factor associated with organisational support.

Subsequently we found that profitability was negatively related to self-renewal and positively related to organisational support. Self-renewal activities have associated expenses, of course, and these would have a negative impact on profits unless the self-renewal activity was successful in subsequently generating incremental revenue that exceeds the incremental cost of the self-renewal activity. Accordingly, we speculate that the significant negative relationship found between self-renewal and profitability might be associated with unsuccessful attempts by organisations to renew their activities

when faced by decline in their existing business activities. This is consistent with Covin and Miles (1999) who suggested that a negative impact on performance of moderate to high magnitude would be expected if attempted acts of self-renewal fail, and Zahra (1993), who also suggested that perceived decline of industries would push companies into increased renewal activities.

The significant positive relationship found between organisational support and profitability is somewhat consistent with the findings of Chandler et al. (2000) who found that an innovative supportive culture enhanced firm earnings only under conditions of a rapidly changing environment. The results of the current study are also consistent with their finding that an innovation supportive culture was not significantly related to firm growth. Chandler et al. (2000) provide several explanations for the conflicting results of the relationship between an innovative supportive culture and the performance dimensions of growth and performance including the possibility of a lagged effect between entrepreneurial culture building and firm performance.

The different explanatory variables for the growth equation (Table 4) and the profitability equation (Table 6) present an interesting finding. Whereas growth was significantly and positively correlated with new business venturing and environmental munificence, profitability was correlated negatively with self-renewal and positively with organisational support. Thus profits and growth respond to different intrapreneurial activities. Moreover, while environmental munificence was positively related to firm growth, it did not impact significantly on firm profitability. Of course there is a trade-off between firm growth and profitability, since growth will involve investments in new capacity, marketing research, and other establishment costs in new markets. Conversely a firm pursuing profitability may envision a shorter time horizon and harvest existing investments rather than invest for longer term growth. As Zahra (1991) suggests, some firms may be pursuing growth (over a longer time horizon) while others are pursuing profitability (over a shorter time horizon) and our analysis is unable to distinguish between these.

This study has some important implications for practising managers. In order to achieve higher growth, Australian firms may need to be more proactive and in particular, should increase their new business venturing activities to a much higher level. To improve their profitability they may need to be more proactive and to decrease (or be more selective in) their self-renewal endeavours that might have distracted them from more important intrapreneurship behaviours and orientations. Environmental munificence was found to have a significant impact on the firms' growth, which suggests that in order to sustain growth, Australian firms should actively pursue business ventures where technological opportunities, demand for new products and perceived growth opportunities present themselves.

Implications for further research include that further investigation into the relationship between the role of an innovative supportive culture and firm performance is warranted. Organisational factors such as firm resources, culture and top management team characteristics have been suggested as impacting on corporate entrepreneurship and firm performance (Lumpkin and Dess, 1996), but unfortunately our questionnaire did not include items related to these factors. Items indicating organisational support included the training of employees in creativity techniques, rewarding employees for creativity and innovation, the establishment of procedures to solicit employee ideas for innovations, establishment of procedures to examine new ideas and the formal designation of idea champions. The findings suggest that the development of an innovation supportive organisational culture may be an important factor influencing profitability and perhaps competitive advantage within an industry. Second, stronger or more informative findings might be achieved by extending the research to include samples of small firms, using multiple respondents and data collection methods and sources, and comparing with firms in other countries. Industry specific research may also help to uncover relationships. Third, due to the small sample size, investigations between intrapreneurial activities and firm performance within a particular industry were not possible in this study. However noticeable differences in both performance and intrapreneurial activities were found between industries, which suggest that further studies should control for this moderating factor. Finally,

identifying the objective of business firms (whether related to shorter term profitability or longer term growth) appears important for any analysis of the performance of Australian firms.

Limitations of this study include the fact that firms with less than 100 employees were not included in the sample, and thus the findings may not generalize to smaller firms. Secondly, data were collected only from one informant from the company and were not separately validated. Note that we did target the chief executive, who should possess the greatest awareness of organizational level entrepreneurship activities and orientations, but who might have delegated completion of the questionnaire. Third, perceptual measures were used, without cross-checking them with behavioural and accounting data. Despite these limitations, this research has discovered important differences in intrapreneurship-performance relationships in the Australian context and provides a base for further research in this area.

REFERENCES

Antoncic, B., & Hisrich, R.D. 2001. Intrapreneurship: Construct refinement and cross-cultural validation. ***Journal of Business Venturing*****,** 16: 495-527.

Antoncic, B., & Hisrich, R.D. 2003. Clarifying the intrapreneurship concept. **Journal of Small Business and Enterprise Development,** 10(1): 7-24.

Chandler, G.N., & Hanks, S.H. 1993. Measuring the performance of emerging businesses: A validation study. **Journal of Business Venturing,** 8(5): 391–408.

Chandler, G., Keller, C., & Lyon, D. 2000. Unraveling the determinants and consequences of an innovation-supportive organisational culture. **Entrepreneurship Theory and Practice,** Fall: 59-76.

Covin, J.G. 1991. Entrepreneurial vs. conservative firms: A comparison of strategies and performance. **Journal of Management Studies,** 25(5): 439–462.

Covin, J.G., & Miles, M.P. 1999. Corporate entrepreneurship and the pursuit of competitive advantage. **Entrepreneurship Theory and Practice,** Spring: 47-63.

Covin, J.G., & Slevin, D.P. 1986. The development and testing of an organizational-level entrepreneurship scale. In R. Ronstadt, et al. (Eds.), ***Frontiers of Entrepreneurship Research.*** Wellesley, MA: Babson College.

Covin, J.G., & Slevin, D.P. 1989. Strategic management of small firms in hostile and benign environments. ***Strategic Management Journal,*** 10: 75–87.

Covin, J.G., & Slevin, D.P. 1991. A conceptual model of entrepreneurship as firm behavior. ***Entrepreneurship Theory and Practice,*** 16(1): 7–25.

Dess, G.G., Ireland, R.D., Zahra, S.A., Floyd, S.W., Janney, J.J., & Lane, P.J. 2003. Emerging issues in corporate entrepreneurship. ***Journal of Management,*** 29(3): 351-378.

Guth, W.D., & Ginsberg, A. 1990. Guest editors' introduction: Corporate entrepreneurship. ***Strategic Management Journal,*** 11: 5–15.

Khandwalla, P.N. 1977. ***The Design of Organizations***. New York, NY: Harcourt Brace Jovanovich.

Knight, G.A. 1997. Cross-cultural reliability and validity of a scale to measure firm entrepreneurial orientation. ***Journal of Business Venturing,*** 12(3): 213–225.

Kreiser, P., Marino, L., & Weaver, K. 2002. Assessing the psychometric properties of the entrepreneurial orientation scale: A multi-country analysis. ***Entrepreneurial Theory and Practice,*** Summer: 71-94.

Lumpkin, G.T., & Dess, G.G. 1996. Clarifying the entrepreneurial orientation construct and linking it to performance. ***Academy of Management Review,*** 12(1): 135–172.

Miller, D. 1983. The correlates of entrepreneurship in three types of firms. ***Management Science,*** 29(7): 770-791.

Miller, D., & Friesen, P.H. 1978. Archetypes of strategy formulation. ***Management Science,*** 24(9): 921–933.

Miller, D., & Friesen, P.H. 1982. Innovation in conservative and entrepreneurial firms: Two models of strategic momentum. ***Strategic Management Journal,*** 3: 921–933.

Miller, D., & Friesen, P.H. 1983. Strategy making and environment. ***Strategic Management Journal,*** 4: 221-235.

Sharma, P., & Chrisman J. 1999. Towards a reconciliation of the definitional issues in the field of corporate entrepreneurship. ***Entrepreneurial Theory and Practice,*** Spring: 11-27.

Stevenson, H.H., & Jarillo, J.C. 1990. A paradigm of entrepreneurship: Entrepreneurial management. ***Strategic Management Journal,*** 11: 17–27.

Wang, C.K., & Ang, B.L. 2004. Determinants of venture performance in Singapore. ***Journal of Small Business Management,*** 42(4): 347-363.

Wiklund, J. 1999. The sustainability of the entrepreneurial orientation-performance relationship. ***Entrepreneurship Theory and Practise,*** Fall: 37-48.

Zahra, S.A. 1991. Predictors and financial outcomes of corporate entrepreneurship: An exploratory study. ***Journal of Business Venturing,*** 6(4): 259–285.

Zahra, S.A. 1993. Environment, corporate entrepreneurship, and financial performance: A taxonomic approach. ***Journal of Business Venturing,*** 8(4): 319–340.

Zahra, S., Covin, J. 1995. Contextual influence on the corporate entrepreneurship-performance relationship: A longitudinal analysis. ***Journal of Business Venturing,*** 10: 43-58.

TABLE 1:

Results of factor analysis on items measuring the intrapreneurship construct[a]

	Factor				
	New Business Venturing	Innovativeness	Proactiveness	Self-Renewal	Organisational Support
NBV_1	**0.59**		0.40		
NBV_2	**0.46**				-0.38
NBV_3	**0.62**				
NBV_4	**0.73**				
INNOV_1	0.45	**0.65**			
INNOV_2		**0.77**			
INNOV_3		**0.85**			
INNOV_4		**0.88**			
PROACT_1			**0.85**		
PROACT_2			**0.86**		
PROACT_3	0.73				
SR_1	0.53			**0.31**	
SR_2				**0.65**	0.31
SR_3				**0.64**	
SR_4				**0.87**	
SR_5				**0.57**	0.35
SR_6		0.39		**0.48**	
OS_1				0.34	**0.58**
OS_2					**0.77**
OS_3					**0.88**
OS_4					**0.76**
OS_5					**0.56**

[a]Factors less than 0.3 were suppressed.

TABLE 2:

Results of factor analysis on items measuring the self renewal construct[b]

Item	Factor 1 Self Renewal	Factor 2 Organisational support
1. Revising your business concept	**0.44**	
2. Reorganising units and divisions to increase innovation	**0.68**	0.32
3. Coordinated activities among units to enhance company innovation	**0.74**	
4. Increasing the autonomy (independence) of different units to enhance their innovation	**0.81**	
5. Adopting flexible organisational structures to increase innovation	**0.50**	0.46
6. Training employees in creativity techniques		**0.67**
7. Rewarding employees for creativity and innovation		**0.82**
8. Establishing procedures to solicit employee ideas for innovations		**0.88**
9. Establishing procedures to examine new innovation ideas		**0.72**
10. Designating formal idea (project or venture) champions		**0.62**
11. Making resources available for experimental projects	**0.51**	0.30

[b]Factors less than 0.3 were suppressed.

TABLE 3:

Regression output using growth as dependent variable

(Model 1 - control variables excluded)

	Unstandardised coefficients	Standardised coefficients
Constant	0.50	
New Business Venturing	0.57 **	0.40 **
Innovation	0.01	0.01
Self Renewal	-0.17	-0.10
Pro-activeness	0.36 *	0.25 *

R-square: 0.22, R-square (adjusted): 0.17, F significance: 0.01

* $p < 0.05$

** $p < 0.01$

TABLE 4:

Regression output using growth as dependent variable

(Model 2 - control variables included)

	Unstandardised coefficients	Standardised coefficients
Constant	-2.31	
New Business Venturing	0.43 **	0.31 **
Innovation	0.07	0.05
Self Renewal	-0.16	-0.10
Pro-activeness	0.19	0.12
Environmental Munificence	0.82 **	0.34 **
Organisational support	-0.04	-0.03
Industry type	-0.32	-0.13
Company age	-0.08	-0.08
Company size	-0.13	-0.19

R-square: 0.40, R-square (adjusted): 0.26, F significance: 0.01

* $p < 0.05$

** $p < 0.01$

TABLE 5:

Regression output using profitability as dependent variable

(Model 1 - control variables excluded)

	Unstandardised coefficients	Standardised coefficients
Constant	2.57 **	
New Business Venturing	0.01	0.01
Innovation	0.23	0.17
Self Renewal	-0.30	-0.23
Pro-activeness	0.27	0.23

R-square: 0.11, R-square (adjusted): 0.05, F significance: 0.12

* $p < 0.05$

** $p < 0.01$

TABLE 6:

Regression output using profitability as dependent variable

(Model 2 - control variables included)

	Unstandardised coefficients	Standardised coefficients
Constant	2.09	
New Business Venturing	0.22	0.19
Innovation	0.29	0.22
Self Renewal	-0.63 **	-0.47 **
Pro-activeness	0.22	0.18
Environmental Munificence	-0.28	-0.14
Organisational support	0.53 **	0.43 **
Industry type	-0.16	-0.08
Company age	0.14	0.17
Company size	-0.11	-0.19

R-square: 0.33, R-square (adjusted): 0.17, F significance: 0.06

* $p < 0.05$

** $p < 0.01$